

Special Issue

Lithium-Ion Batteries and Their Role in Achieving Sustainable Energy Goals

Message from the Guest Editor

This Special Issue aims to critically examine the dual role of Li-ion battery technology as both a cornerstone of the clean energy transition and a source of new sustainability challenges. a) Focus: The issue will focus on the intersection of Li-ion battery innovation and comprehensive sustainability metrics, moving beyond pure performance to include environmental and socio-economic impacts. b) Scope: We invite research spanning the entire battery lifecycle—from ethical raw material sourcing and green manufacturing to second-life applications and advanced recycling—alongside analyses of policy frameworks, circular economy models, and lifecycle assessments. c) Purpose: The purpose of this Special Issue is to synthesize a holistic view, providing actionable insights for developing Li-ion batteries that are not only technologically superior but also truly sustainable. This Special Issue will contribute to the journal's mission by quantifying sustainability trade-offs, evaluating policy tools, and promoting integrated approaches essential for aligning battery technology with the broader goals of sustainable development.

Guest Editor

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Message from the Editor-in-Chief

I encourage you to contribute a research or comprehensive review article for consideration for publication in Sustainability, an international open access journal which provides an advanced forum for research findings in areas related to sustainability and sustainable development. The journal publishes original research articles, reviews, conference proceedings (peer reviewed full articles) and communications. I am confident you will find the journal contributes to enhancing understanding of sustainability and fostering initiatives and applications of sustainability-based measures and activities.

Editor-in-Chief

Prof. Dr. Steve W. Lyon

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